



## Testosterone for Women: Desire, data and downsides

### CLINICAL QUESTION

**Can testosterone improve sexual function in pre or post-menopausal women?**

### BOTTOM LINE

**In post-menopausal women with hypoactive sexual desire disorder (mostly on estrogen therapy), testosterone improves the number of satisfying sexual events by ~1 more per month over placebo at 12-52 weeks. Absence of benefit in premenopausal women may be due to small study sizes. Versus placebo, testosterone increases risk of acne (7.2% versus 5%) and hirsutism (12% versus 8%).**

### EVIDENCE

- Statistically different unless stated.
- Four systematic reviews (7-35 RCTs, 1957-8480 women) comparing testosterone (various formulations) versus comparator.<sup>1-4</sup> Focusing on most recent systematic reviews:<sup>1,2</sup> Mostly post-menopausal women on hormone therapy, followed 12-104 weeks:
  - Satisfying sexual events:
    - Post-menopausal women:<sup>1</sup> Baseline not reported. Testosterone increased by 0.85 events/month.
      - Example (baseline: ~2.5 events/month):<sup>5</sup> At 6 months, 4.6 (testosterone 300ug patch) versus 3.2 (placebo) per month.

- Pre-menopausal women (2 RCTs, 163 subjects):<sup>1</sup> No difference (likely underpowered).
  - Orgasm: ~2 Per month versus 0.75 (placebo).<sup>2</sup>
  - Desire:<sup>1</sup> Standard mean difference=0.36.
    - Example: (Scale 0-100, higher=more desire, baseline ~20). Testosterone increased to ~33 versus 26 (placebo).<sup>5</sup>
  - Personal distress:<sup>1</sup> Standard mean difference=0.27.
    - Example: (Scale 0-100, lower=less distress, baseline: 65). Testosterone reduced to ~39 versus 51 (placebo).<sup>5</sup>
  - Cognition, bone density, muscle strength, mood: No difference.<sup>1</sup>
  - Adverse events:<sup>1,2</sup>
    - Severe: No difference.
    - Acne: 7.2% versus 5% (placebo), number needed to harm (NNH)=19.
    - Hirsutism: 12% versus 8% (placebo), NNH=25.
    - Weight: +0.5kg with testosterone at 6-12 months versus placebo.
  - Other systematic reviews:<sup>3,4</sup> Similar.
- Recent RCT: 70 post-menopausal women on estradiol, low sexual function. Transdermal testosterone versus placebo.<sup>6</sup> At 8 weeks:
  - Proportion with no sexual dysfunction: 56% versus 39% (placebo), number needed to treat=6.
- Limitations: High drop-out rates (on placebo); uncertain randomization concealment; different measurement scales used.

## CONTEXT

- Guidelines:<sup>7,8</sup>
  - May consider off-label testosterone for hypoactive sexual desire disorder after addressing other causes.
  - Testosterone gel 1%: One-half pump daily to posterior calf.<sup>7</sup>
  - Levels not recommended for diagnosis. If treatment initiated, total testosterone levels at baseline, 3-6 weeks and every 6 months (target  $\leq 2.8$ nmol/L).<sup>7</sup>
  - Onset: 1-3 months. Discontinue if no benefit at 6 months.

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